

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Osamu MAEDA	Art Unit: 2614
Application No.: 10/791,105	
Confirmation No.: 2437	Examiner: G. Monikang
Filing or 371(c) Date: March 2, 2004	
Title: VEHICLE SOUND SYNTHESIZER	

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Office Action dated June 10, 2009, please consider Applicant's arguments and remarks concerning the rejections issued in the outstanding Office Action. Applicant has filed a Notice of Appeal with this Pre-Appeal Brief Request for Review, but has paid only the difference between the Notice of Appeal fee previously paid on August 26, 2008 and the current Notice of Appeal fee due.

Claims 3 and 4 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Truchsess (U.S. 5,734,726) in view of Koike et al. (U.S. 5,635,903).

Applicant's claim 3 recites:

A sound synthesizer for generating a sound that simulates the sound of an internal combustion engine having a plurality of cylinders, the sound synthesizer comprising:

a memory arranged to store engine sound data corresponding to at least one operational state of the engine based on a firing interval of the cylinders; and

an output generator arranged to concurrently output first and second sound signals to a common speaker based on the engine sound data stored in the memory; wherein

the output generator controls the first and second sound signals such that the first sound signal has at least one of a first pitch that is

variable for each firing interval and a first volume that is variable for each firing interval, and the second sound signal has at least one of a second pitch that is variable for each firing interval independently of the first pitch of the first sound signal and a second volume that is variable for each firing interval independently of the first volume of the first sound signal.
(emphasis added)

The Examiner alleged that Koike et al. teaches outputting “synthesized signals inside and outside the electrical vehicle,” a “synthesizer to combine[d] data with start or drive,” and “the start signals and run signals are synthesized together and outputted differently for the inside of the electric vehicle and the outside of the electric vehicle.” The Examiner referred to various columns and lines and Figs. of Koike et al. for support for these alleged teachings of Koike et al.

For the reasons set forth below, the Examiner has incorrectly characterized the teachings of Koike et al. and, thus, the Examiner’s prior art rejection in the outstanding Office Action contains clear factual errors.

First, the Examiner referred to column 5, lines 21-32 and Fig. 3 of Koike et al. for the alleged teaching of a sound synthesizer 33 for combining start or drive sound signals. However, column 5, lines 21-32 of Koike et al. merely discloses various sound source devices 4 including an IC for “synthesizing” sounds produced when an automobile starts, runs, and accelerates/decelerates and a DSP for calculating and processing “signals to produce desired sound signal waves.” Neither of these sound source devices concurrently output first and second sound signals to a common speaker, as recited in Applicant’s claim 3. Furthermore, Koike et al. does not remotely teach or suggest that these sound source devices can control the first sound signal to have a pitch or volume that is variable for each firing interval independent of a pitch or volume that is variable for each firing interval of the second sound signal, as also recited in Applicant’s claim 3.

With respect to the sound synthesizer 33 shown in Fig. 3 of Koike et al., column 5, lines 33-38 and Fig. 3 of Koike et al. clearly disclose and show that the starting sound selection information 11a and the running sound selection information 12a are not

combined into a single sound signal, but are instead selectively output as starting sound signals 4a “or” driving sound signals 4b, respectively.

Second, the Examiner referred to column 6, lines 45-60 of Koike et al. for the alleged teaching of synthesizing “together” the start and run signals. However, column 6, lines 45-60 of Koike et al. merely teach that the sound data storage unit 34 stores both of the start and run signals without any teaching whatsoever regarding combining the start and run signals “together,” as alleged by the Examiner.

Additionally, in the embodiment of Koike et al. in which the starting sound signals 4a, 4b appear to be concurrently output, the Examiner acknowledged that the sound signals 4a, 4b are output differently to the inside and the outside of the electric vehicle. That is, one of the sound signals 4a, 4b is output to a speaker inside the vehicle and the other of the sound signals 4a, 4b is output to a speaker outside the vehicle. See, for example, column 6, lines 20-28 of Koike et al. Thus, the Examiner admitted that the sound signals 4a, 4b of Koike et al. are not concurrently output to a common speaker, as recited in Applicant’s claim 3.

Third, the Examiner also referred to column 7, lines 1-10 of Koike et al. for the alleged teaching of “synthesizing” the starting and running sound signals. Possibly, the Examiner believes that this phrase as used in Koike et al. means “combining” the starting and running sound signals. However, since there is no teaching in Koike et al. of combining any sound signals, it is readily apparent that the “synthesized” sound signals of Koike et al. merely means that the sound signals are digitally stored and outputted on command.

Fourth, the Examiner referred to Figs. 2A-2E of Koike et al. for the alleged teaching of concurrently outputting first and second sound signals. However, Applicant previously addressed this allegation in the response filed December 21, 2007 by pointing out that the oscillators 21-23 shown in Figs. 2A-2E of Koike et al. do not have variable frequencies for each interval of a cylinder. Consequently, in the subsequent Office Action dated March 26, 2008, the Examiner withdrew the prior art rejection over Koike et al.

Fifth, the Examiner referred to column 8, lines 3-8 of Koike et al. for the alleged teaching of outputting synthesized signals 5a, 5b. However, Fig. 1 of Koike et al. clearly shows that the sound signals 5a, 5b are output to different speakers 7, 9 such that the sound signals 5a, 5b are clearly NOT concurrently output to a common speaker, as is recited in Applicant's claim 3.

In summary, there is absolutely no teaching or suggestion anywhere in Koike et al. of concurrently outputting first and second sound signals to a common speaker.

Lastly, the Examiner has not provided any logical reason why one of ordinary skill in the art would have combined the teachings of Truchsess and Koike et al. in the manner alleged by the Examiner. Truchsess teaches a sound synthesizer that sequentially outputs acceleration or deceleration signals to simulate acceleration or deceleration of a vehicle. See, for example, column 3, lines 40-52 and Figs. 1, 2A, and 2B of Truchsess. Koike et al. teaches selectively outputting starting or running sound signals, or concurrently outputting different sound signals to different speakers located inside and outside of an electric vehicle to simulate the different sounds of an engine as heard by a person inside the car and a person outside of the car. See, for example, column 2, lines 17-22 and column 6, lines 20-28 of Koike et al.

Assuming *arguendo* that one of ordinary skill in the art would have modified the teachings of Truchsess in view of Koike et al., it would appear that Truchsess could have been modified to include starting sound signals, as opposed to merely running sound signals (i.e., acceleration and deceleration sound segments), and to output different sound signals to the inside and the outside of the vehicle. However, neither combination of Truchsess and Koike et al. remotely teaches or suggests the feature of "an output generator arranged to concurrently output first and second sound signals to a common speaker based on the engine sound data stored in the memory," as recited in Applicant's claim 3.

In view of the foregoing remarks, Applicant respectfully submits that claim 3 is allowable. Claim 4 depends upon claim 3, and is therefore allowable for at least the reasons that claim 3 is allowable.

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In view of the foregoing remarks, Applicant respectfully submits that this application is in condition for allowance. Favorable consideration and prompt allowance are solicited.

The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1353.

Respectfully submitted,

Dated: September 2, 2009

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